Multidimensional Family Therapy (MDFT): An Effective Treatment for Adolescent Substance Abuse

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ABSTRACT

Treatment research in the adolescent substance abuse specialty has evolved rapidly in the past decade. Family therapies are emerging as "best practice" treatments for adolescent substance abuse (Ozechowski & Liddle, 2000). This paper presents an overview of Multidimensional Family Therapy (MDFT), an outpatient, empirically supported, family-based approach to the treatment of adolescent substance abuse and associated mental health and behavioural problems (Liddle, 2002a). MDFT integrates the clinical and theoretical traditions of developmental psychology and psychopathology, the ecological perspective, and family therapy. This family-focused, developmentally-based substance abuse treatment for adolescents works to facilitate change at different system levels, in different domains of functioning, and with different people inside and outside of the family, to end drug use and related problems, thus returning the youth and family to a normative developmental trajectory. The MDFT approach has been recognised as one of the most promising interventions for adolescent drug abuse and related problem behaviours in a new generation of evidence-based, multicomponent, and theory-derived treatments.

OVERVIEW OF MULTIDIMENSIONAL FAMILY THERAPY (MDFT)

Multidimensional Family Therapy (MDFT, Liddle, 2002a) is a multicomponent, developmental-ecological treatment for adolescent drug abuse and related problems that seeks to reduce symptoms and enhance developmental functioning by facilitating change in several behavioural domains.

Independent reviews identify and recommend MDFT as an exemplary (Brannigan, Schackman, Falco, & Millman, 2004; Drug Strategies, 2003; Office of Juvenile Justice and Delinquency Prevention [OJJDP], 1999), best practice (DHHS, 2002), model programme (Substance Abuse and Mental Health Administration, [SAMHSA], 2004), and scientifically proven and effective treatment (National Institute on Drug Abuse [NIDA], 2001) for teen drug abuse. Internationally, in Rigter and colleague's (Rigter, Van Gageldonk, & Ketelaars, 2005) volume assessing the state of the science of evidence-based practice, MDFT received the highest rating of available research-based adolescent drug abuse interventions for its number and quality of controlled-outcome studies and investigations of the therapeutic process.

MDFT is based on the integration of the clinical and theoretical traditions of developmental psychology and psychopathology, the ecological perspective, and family therapy. Adolescent developmental psychology and psychopathology research has determined that (1) the family is the primary context of healthy identity formation and ego development, (2) peer influence operates in relation to the family's buffering effect against the deviant peer subculture, and (3) adolescents need to develop an interdependent rather than an emotionally separated relationship with their parents. Therefore, a multidimensional change perspective holds that symptom reduction and enhancement of prosocial and normative developmental functions in problem adolescents occur by (1) targeting the family as the foundation for intervention and (2) simultaneously facilitating curative processes in several domains of functioning and across several systemic levels. Particular behaviours, emotions, and thinking patterns known to be related to problem formation and continuation are replaced by new behaviours, emotions, and thinking patterns associated with appropriate intrapersonal and familial development (Liddle, 2002a).

A manualised intervention (Liddle, 2002a), MDFT uses research-derived knowledge about risk and protective factors for adolescent drug and related problems as the basis for assessment and intervention in four interdependent modules that target multiple aspects of adolescent and family functioning: the *adolescent module* addresses developmental issues such as identity formation, peer relations, prosocial involvement, and drug use consequences; the *parent module* enhances parenting skills in the areas of monitoring and limit-setting, rebuilding emotional bonds with the adolescent, and participating in the teen's life outside the family; the *family module* facilitates change in family relationship patterns by helping families develop the motivation and skills to revitalise attachments and interact in more adaptive ways; and the *extrafamilial module* seeks to establish

collaborative relationships among all social systems in which the adolescent participates (i.e., family, school, peer, recreational, juvenile justice). Each MDFT module – adolescent, parent, parent-adolescent interactions and extended family, and extrafamilial systems - is critical to the change process (Liddle, 1999). Each contributes to the creation and continuation of the drug taking and related problem behaviours, as well as to the possibilities of changing the life course to turn it away from the developmental detours of drugs and delinquency (Liddle, 2002a).

Therapy principles are defined as theory-grounded, fixed, and predetermined rules that guide clinical orientation and behaviour. Ten clinical operating principles provide a framework for what a MDFT therapist should do (i.e., prescribed behaviours). They also imply what she or he is not supposed to do (i.e., proscribed behaviours) (Rowe, Liddle, McClintic, & Quille, 2002).

1. Adolescent Drug Abuse is a Multidimensional Phenomenon. MDFT clinical work is guided by an ecological and developmental perspective and corresponding research. Adolescent drug abuse problems are defined intrapersonally, interpersonally, and in terms of the interaction of multiple systems and levels of influence.

2. Problem Situations Provide Information and Opportunity. Current symptoms of the adolescent or other family members, as well as crises pertaining to the adolescent, provide critical assessment information and important intervention opportunities.

3. Change is Multidetermined and Multifaceted. Change emerges out of the synergistic effects of interaction among different systems and levels of systems, different people, domains of functioning, time periods, intrapersonal and interpersonal processes. Assessment and interventions themselves give indications about the timing, routes, or kinds of change that are accessible and potentially efficacious with a particular case. A multivariate conception of change commits the clinician to a coordinated and sequential working of multiple change pathways and methods.

4. Motivation is Malleable. We do not assume that motivation to enter treatment or to change will be present with adolescents or their parents. Treatment receptivity and motivation vary across individual family members and extrafamilial others. We understand resistance as normative. “Resistant” behaviours are communications about the barriers to successful treatment implementation, and they point to important processes requiring therapeutic focus.

5. Working Relationships are Critical. The therapist makes treatment possible through supportive but outcome-focused working relationships with family members and extrafamilial supports, and the facilitation and working through of personally meaningful relationship and life themes. These therapeutic themes emerge from discussions about generic individual and family developmental tasks and the case-specific aspects of the adolescent and family's development.

6. Interventions are Individualised. Although they have generic aspects (e.g., promoting competence of adolescent or parent inside and outside of the family), interventions are customised according to each family, family member, and the family's environmental circumstances. Interventions target known etiologic risk factors related to drug abuse and problem behaviours, and they promote protective intrapersonal and interpersonal processes.

7. Planning and Flexibility are Two Sides of the Same Therapeutic Coin. Case formulations are socially constructed blueprints that guide the therapist throughout the therapeutic process. These formulations are revised on the basis of new information, in-treatment experiences, and feedback. In collaboration with family members and relevant extrafamilial others, therapists continually evaluate the results of all interventions. Using this feedback process, a therapist alters the intervention plan and modifies particular interventions, or more general strategy, accordingly.

8. Treatment and its Multiple Components are Phasic. MDFT is based on epigenetic principles specifying a sequential pattern of change. Thus theme development, intervention plans and implementation, and the overall therapy process are organised and executed in stages. Progress in one area, therapeutic alliance for instance, lays the foundation for the next step, formulation of content themes learned about early on. Then content themes become more focused, therapeutically oriented, and then these foci serve as a basis for change strategy and change attempts, all of which are followed by the therapist, who consistently adjusts treatment strategy and interventions as per the frequent, sometimes daily, feedback about intervention outcomes.

9. Therapist Responsibility is Emphasised. Therapists accept responsibility for promoting participation and enhancing motivation of all involved individuals; creating a workable agenda and clinical focus; devising multidimensional and multisystemic alternatives; providing thematic focus and consistency throughout treatment; prompting behaviour change; evaluating the ongoing success of interventions; and revising the interventions as needed according to the feedback from the interventions.

10. Therapist Attitude and Behaviour are Fundamental to Success. Therapists advocate for both the adolescent and the parent. They are careful not to take extreme positions as either child savers or proponents of the "tough love" philosophy. Therapists are optimistic but not naïve about change. They understand that their own ability to remain positive, committed, creative, and energetic in the face of challenges is instrumental in achieving success with adolescents and their families.

MDFT treatment is phasic - theme development, intervention implementation, and the overall therapy process are organised and administered in three stages. Each stage includes work in each of the four MDFT assessment and intervention domains—the individual, adolescent, parent, the family interaction system, and the extrafamilial social system. To reduce treatment barriers, facilitate a personal engagement between the therapist and all family members, and to gain practically useful information about the teen's day-to-day natural ecology, individual sessions with the teen and parent and family sessions are held in the home and treatment clinic, or at community locations such as school or court throughout therapy.

Stage one includes a comprehensive assessment of problem areas and pockets of untapped or underutilised strength. Assessment in MDFT is the basis for the therapeutic "map," directing therapists where to intervene in the multiple domains of the adolescent's life (Rowe et al., 2002). The initial emphasis is on engagement and establishing a foundation for treatment. Strong therapeutic relationships are established with all family members and influential persons such as school or juvenile justice personnel and success in developing these multiple therapeutic alliances is a vital aspect of the intervention (Diamond, Liddle, Hogue, & Dakof, 1999). Clinicians use knowledge of normative and atypical development in crafting therapeutic content foci that must be personally meaningful for each family member (Liddle 1999). The cooperation of family members and others is enlisted in a highly focused and sustained effort to reorganise the teenager's life. Helping to arrange school meetings and academic testing, tutoring, and vocational assessments and training, for example, are all part of therapy's purview (Rowe et al., 2002). The themes, focal areas, and goals of therapy are established in the first stage.

Stage two is the working phase of treatment where significant change attempts are made within and across the interlocking subsystems (e.g., individual, family, peers, school, etc.) assessed at the outset of treatment. Overall the focus is on the facilitation of developmentally appropriate competence across areas of the teen's life. New communication and problem-solving skills are taught in an

individually tailored way. In addition to an individual and family foci, the therapist motivates the teen to access extrafamilial resources (e.g. job training, GED acquisition) to provide concrete alternatives to drug using and antisocial lifestyles. Parenting practices also are prime intervention targets. Parents are helped to examine their current relationship with their teenager and their strategies to influence their teen. Therapists work to change negative family interaction patterns as a way to change the everyday family environment. They coach parents on new ways of reaching out to their teenagers and help adolescents address the issues that separate them in developmentally non-normative ways from their parents.

Stage three seals the changes that have been made and prepares the teen and family for their next stage of development. In this stage, all changes are made overt, progress and changes are acknowledged, and the therapist refines any other issues that the family needs to address. The focus is on 1) having the family work on maintaining progress, 2) encouraging the family to do its own work, and 3) emphasising generalisability and the extension of new ideas and behaviours to current and future situations. Adolescents and families are helped to translate their new ideas, skills, and behaviours initiated in treatment to new real-world situations.

RESEARCH EVIDENCE SUPPORTING THE EFFECTIVENESS OF MDFT

Multidimensional Family Therapy has been developed and tested in federally funded research projects since 1985. This research programme has provided evidence for the efficacy and effectiveness of MDFT for adolescent substance abuse. The studies have been conducted at sites across the United States (including Philadelphia, Miami, St. Louis, Bloomington, Illinois, and several communities in the San Francisco Bay area), among diverse samples of adolescents (African American, Hispanic/Latino, and White youth between the ages of 11 and 18) in urban, suburban, and rural settings, with various socioeconomic backgrounds. International studies of MDFT, including a European multisite trial of MDFT in five countries, are funded and currently underway. In MDFT studies, all research participants met diagnostic criteria for adolescent substance abuse disorder as well as other serious problems (e.g., delinquency and depression). The following section will review the significant findings from four types of studies: (1) randomised controlled trials, (2) process or mechanisms of action studies, (3) economic analyses, and (4) transportation or technology transfer studies.

Randomised Controlled Trials

Six randomised controlled trials have tested MDFT against a variety of comparison treatments for adolescent drug abuse. MDFT has demonstrated more favourable outcomes than several other state-of-the-art interventions, including family group therapy, peer group treatment, individual cognitive-behavioural therapy (CBT), and comprehensive residential treatment (Liddle et al., 2001; Liddle, 2002b; Liddle & Dakof, 2002; Liddle, Rowe, Dakof, Ungaro, & Henderson, 2004; Rowe, Liddle, Dakof, & Henderson, 2004). MDFT studies have included samples of teens with serious drug abuse (i.e., heavy marijuana users, with alcohol, cocaine, and other drug use) and delinquency problems. Here is a summary of some noteworthy findings from the MDFT clinical trials:

Substance use is significantly reduced in MDFT to a greater extent than all comparison treatments investigated in five controlled clinical trials (between 41 percent and 82 percent reduction from intake to discharge) (Liddle et al., 2001; Liddle, 2002a; Liddle, Dakof et al., 2004; Rowe, Liddle, Dakof, & Henderson, 2004; Rowe, Liddle, Dakof, Henderson, Gonzalez et al., 2004). Additionally, substance-abuse-related problems (e.g., antisocial, delinquent, externalising behaviours) are significantly reduced in MDFT to a greater extent than comparison treatments (Liddle, 2002a; Rowe, Liddle, Dakof, & Henderson, 2004; Hogue, Liddle, Becker, & Johnson-Leckrone, 2002; Liddle et al., 2001; Liddle, Rowe et al., 2004).

Youth receiving MDFT often abstain from drug use. During the treatment process and at the 12-month follow-up, youth receiving MDFT had higher rates of abstinence from substance use than comparison treatment. MDFT studies (Liddle, 2002a; Rowe, Liddle, Dakof, & Henderson, 2004) have indicated the majority of youth receiving MDFT report abstinence from all illegal substances at 12 months post-intake (64 percent and 93 percent respectively). MDFT demonstrated durability of obtained change (Liddle et al., 2001; Liddle, Rowe et al., 2004) whereas comparison treatments reported lower abstinence rates (44 percent for CBT and 67 percent for peer group treatment).

Treatment gains are enhanced in MDFT after treatment discharge; MDFT clients continue to decrease substance use after discharge up to 12-month follow-up (58 percent reduction of marijuana use at 12 months; 56 percent abstinent of all substances and 64 percent abstinent or using only once per month; Liddle, 2002b; Liddle & Dakof, 2002; Rowe, Liddle, Dakof, Henderson, Gonzalez et al., 2004).

School functioning improves more dramatically in MDFT than comparison treatments. For example, MDFT clients return to school and receive passing grades at higher rates (43 percent in MDFT versus 17 percent in family group therapy and 7 percent in peer group therapy; Liddle et al., 2001; Rowe, Liddle, Dakof, & Henderson, 2004). Overall, MDFT improves school bonding and school performance, including grades improvements and decreases in disruptive behaviours (Hogue et al., 2002; Liddle et al., 2001; Liddle, Rowe et al., 2004).

Family functioning and interaction improves to a greater extent in MDFT than family group therapy or peer group therapy using observational measures, and these improvements are maintained up to 12-month follow-up (Liddle et al., 2001; Liddle, Rowe et al., 2004). MDFT improves family functioning, including reductions of family conflict and increases in family cohesion (Diamond & Liddle, 1996; Hogue et al., 2002; Liddle et al., 2001; Liddle, Rowe et al., 2004).

Preventive effects. In addition to successfully treating adolescent drug abuse, MDFT has worked effectively as a community-based drug prevention programme (Hogue et al., 2002) and has successfully treated younger adolescents who are initiating drug use (Liddle, Rowe et al., 2004; Rowe, Liddle, Dakof, & Henderson, 2004).

Psychiatric symptoms show greater reductions during treatment in MDFT than comparison treatments (Liddle et al., 2001; Liddle, 2002b; Rowe, Liddle, Dakof, & Henderson, 2004; Rowe, Liddle, Dakof, Henderson, Gonzalez et al., 2004). MDFT demonstrated 30 to 85 percent within-treatment reductions in behaviour problems, including delinquent acts and other mental health problems such as anxiety and depression (Liddle, Rowe et al., 2004).

Effectiveness with comorbidity. Research on MDFT indicates that family-based treatment may be more effective than CBT models in treating multiply impaired youth. In comparison with individual CBT treatment, MDFT had superior outcomes for a class of severe drug-abusing teens with co-occurring problems (i.e., externalising symptoms and family conflict) (Henderson, Greenbaum, Dakof, Rowe, & Liddle, 2004). A recent study by Rowe and colleagues (2004) found that adolescents exhibiting greater psychiatric comorbidity presented for treatment with higher levels of dysfunction. Furthermore, participants with both internaliing and externalising disorders showed slight reductions in substance use from intake to discharge, but these gains levelled off between discharge and 6 months, and returned to intake levels by 12-month follow-up. In contrast, adolescents presenting

exclusively with substance abuse demonstrated significantly faster rates of improvement between the 6- and 12-month follow-up period (Rowe, Liddle, Greenbaum, & Henderson, 2004).

MDFT decreases externalising and internalising symptoms. Youth receiving MDFT decrease their externalising behaviours more rapidly from intake to discharge according to both self- and parent reports. These gains are maintained through the 12-month follow-up. Youth decrease their internalizing symptoms (e.g., general mental distress) more rapidly through the 12-month follow-up.

Delinquent behaviour and association with delinquent peers decrease with youth receiving MDFT, whereas youth receiving peer group treatment reported increases in delinquency and affiliation with delinquent peers; these changes are maintained through a 12-month follow-up (Hogue et al., 2002; Liddle et al., 2001; Liddle, Rowe et al., 2004). Additionally, objective records obtained from youths' Department of Juvenile Justice records indicate that youth receiving MDFT are less likely to be arrested or placed on probation, as well as having fewer findings of wrongdoing during the study period (Rowe, Liddle, Dakof, & Henderson, 2004). MDFT transportation studies have also shown that association with delinquent peers decreases more rapidly after therapists have received training in MDFT (Liddle, Rowe et al., 2004; Rowe, Liddle, Dakof, & Henderson, 2004; Rowe, Liddle, Dakof, Henderson, Gonzalez et al., 2004).

Studies on the Therapeutic Process and Mechanisms of Change in MDFT

Studies have specified the within-treatment process of improving family interactions (Diamond & Liddle, 1996; Diamond et al., 1999), demonstrated how therapists successfully build therapeutic relationships with teens and parents (Diamond et al., 1999; Shelef, Diamond, Diamond & Liddle, 2005), and showed that adolescents are more likely to complete treatment when therapists have stronger relationships with their parents, and that stronger therapeutic relationships with adolescents predict greater decreases in their drug use (Shelef et al., 2005). MDFT process studies have shown that parents' skills are improved during therapy and that these changes are linked to reductions in adolescents' symptoms (Schmidt, Liddle, & Dakof, 1996), and that a connection exists between systematically addressing important cultural themes and increasing teens' participation in treatment (Jackson-Gilfort, Liddle, Tejeda, & Dakof, 2001). The approach is also exploring adaptations of MDFT to the needs and issues of adolescent girls (Dakof, 2000). Finally, MDFT interventions that focused on changing the family produced changes in drug use and emotional and behavioural

problems (Hogue, Liddle, Dauber, & Samuolis, 2004), and in a related study of mechanisms of action, the quality of the therapeutic alliances between therapist and adolescent and therapist and parent was found to predict treatment completion or dropout (Robbins et al., in press).

Economic Analyses

The average weekly costs of treatment are significantly less for MDFT ($164) than community-based outpatient treatment ($365; French et al., 2003). An intensive version of MDFT designed as an alternative to residential treatment provides superior clinical outcomes at significantly less cost (average weekly costs of $384 versus $1,068; Liddle & Dakof, 2002). More extensive cost benefit studies are underway.

Transportation or Technology Transfer Studies

MDFT transported successfully into a representative hospital-based day treatment programme for adolescent drug abusers (Liddle et al., 2002). There were several important outcomes, including the following: (1) *clients' outcomes were significantly better after staff were trained in MDFT*–clients showed a 25 percent decrease in drug use during treatment prior to MDFT training, compared to an average of 50 percent improvement in reduction following the MDFT training (Liddle et al., 2002; Rowe, Liddle, Dakof, Henderson, Gonzalez et al., 2004); (2) *treatment gains were sustained*; following withdrawal of all MDFT clinical and research staff, clients improved at similar rates to those achieved while therapists were closely monitored by MDFT trainers (Rowe, Liddle, Dakof, Henderson, Gonzalez et al., 2004); (3) *therapists successfully delivered the MDFT according to protocol* following training, with a 36 percent increase in the number of weekly individual therapy sessions, a 150 percent increase in the number of weekly family sessions, a 390 percent increase in contact with juvenile probation officers, and a 1,400 percent increase in school contacts following training (Liddle et al., 2002; Rowe, Liddle, Dakof, Henderson, Gonzalez et al., 2004); (4) *therapists broadened their treatment focus* after MDFT training, addressing more MDFT content themes and focusing more on the adolescents' thoughts and feelings about themselves and important extrafamilial systems (Rowe, Liddle, Dakof, Henderson, Gonzalez et al., 2004); (5) *after training in MDFT and withdrawal of all MDFT clinical and research staff, therapists continued to deliver MDFT according to protocol* (Rowe, Liddle, Dakof, Henderson, Gonzalez et al., 2004); and (6) *programme or treatment system level factors improved dramatically,* including adolescents' perceptions of increased programme organisation and clarity in programme expectations.

Summary

MDFT is a research supported treatment, having been developed and refined over two decades in federally funded research. MDFT studies have found this treatment approach to be an effective and flexible clinical approach. MDFT is a treatment system that has been tested in different versions, depending on the goals of the study, characteristics of the clinical sample (e.g., level of impairment, extent of co-occurring problems, level of juvenile justice involvement), and treatment setting (e.g., outpatient clinic, drug court, day treatment programme). MDFT has achieved superior clinical outcomes in comparison to several state-of-the-art, widely used treatments. The treatment engages teens and families and motivates them to complete therapy. MDFT has a lower cost than standard outpatient or residential treatment, and it has demonstrated success in treating a range of teens and families (e.g., different ethnicities, gender, ages, and severity of problems). We have developed an extensive empirically-based knowledge about how MDFT works, and have been able to successfully adapt the MDFT protocol to existing non-research treatment programmes. MDFT serves as one of the most promising interventions for adolescent drug abuse and related problem behaviours in a new generation of evidence-based, multi-component, and theory-derived treatments.

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